

REMARKS

In an Office Action dated March 14, 2005, the Examiner rejected all claims under 35 U.S.C. 112, first paragraph; rejected claims 11-20 under 35 U.S.C. 101; and rejected all claims under 35 U.S.C. 102(b) or 103 over various combinations of previously cited U.S. Patent 6,658,255 (Goss); U.S. Patent 5,311,583 (Friedes) previously cited, and U.S. Patent 5,752,185 (Ahuja) newly cited.

The Examiner rejected the application under 35 U.S.C. 112 as containing an inadequate description of the claimed subject matter and under 35 U.S.C. 101 as being directed to non-statutory matter. Responsive to the grounds for these rejections, Applicants are submitting a new set of claims, claims 21-40, based directly on the specification and diagram and worded to overcome the rejections under 35 U.S.C. 101. Applicants submit that the new claims should be held allowable.

New claims 21-40 are directly derived from the diagram. The two independent claims, 21 and 31, are intended to replace claims 1 and 11. Specifically, the method steps of claim 21 include steps 201, 203, 205, 209, 237, 239, 241, 245. Also mentioned in the new claims is the critical point that the mobile station is connected to a base station via a control channel (3, Fig. 1) and a radio traffic channel (2, Fig. 1) and that the control channel can be active even if no radio traffic channel is available. The term "on-hook" is used in block 219 (Fig. 2) and the accompanying description (page 7, line 15), so that it is effectively defined for the specification. The term "disconnect" of blocks 210 and 237 (Fig. 2) refers to disconnecting the control channel only since no radio traffic channel has been established at that point.

As amended therefore the claims recite a feature of a cellular system, for the case in which if no radio traffic channel is available for connection to a mobile station of an originating party, which has sent a request to establish a call connection over a control channel; if the expected wait time before such a radio traffic channel becomes available exceeds some threshold, then the originating mobile station is notified and is permitted to disconnect (go on-hook) until a radio channel becomes available at which time the originating party is notified; then, when that party goes off-hook, the call connection can be established. The terms "off-hook" and "on-hook", common terms in the field of telephony, refer to a supervisory state of the originating mobile station; a station can be

off-hook even if no radio traffic channel is available because a control channel (shared by many mobile stations) is still available for sending and receiving signals to and from the mobile station. (The terms off-hook and on-hook refer to the switch-hook of the older telephone stations.) A telephone or mobile station that is off-hook is connectable to a central office; a telephone that is on-hook is not so connected except to receive a ringing signal.

The concept of disconnecting in the initial stage of a call is complicated in the case of the cellular call because no connection has yet been established over a radio traffic channel so the disconnection is the disconnection of the signaling channel. No conventional (talking) connection is actually established until a radio traffic channel becomes available. This is well known to those familiar with cellular mobile systems.

Applicants are also taking this opportunity to correct a mistake in the claims, which mistakenly stated that the base station controller determines whether or not a radio channel is available. Actually, as described in the specification it is the mobile switching center which monitors radio channel availability for several base stations, any of which can communicate with the mobile channel, and determines when a radio channel is available from one of these base stations. Again, Applicants are amending the claims to be consistent with the diagram and the description of the diagram.

The three primary prior art sources cited by the Examiner are Goss, Friedes and Ahuja. As previously noted in the amendment filed February 9, 2005, Goss discloses queuing for an available radio channel. Goss does not disclose that if no channel is available, permitting the caller to go on-hook while the network waits for a channel to become available, and when the channel becomes available for the call, calling back the caller and establishing the requested call. The present patent application relates to the additional step of permitting the originating party to go on-hook (disconnect) while the system waits for a radio channel to become available, and calling the originating party back.

Friedes discloses arrangements for establishing connections between two separate networks, i.e., networks of two different carriers. The initial step, in contrast to Applicants' initial step, does establish a connection (comparable to a radio channel connection) to controllers in the first network; if no path is available to the second

network, Friedes offers a caller the possibility of disconnecting (again, disconnecting the equivalent of a radio channel) and waiting until a connection can be made at which time the caller is called back. The disconnection is of an actual connection that is potentially part of a talking connection, not as in claims 21 and 31, a disconnection of a control channel.

The Ahuja disclosure relates to the situation in which a cellular call is temporarily interrupted, for example, because the caller goes into a short tunnel, and automatically reestablishes a connection when radio channels to the caller are again usable. In contrast to Applicants' invention, the disconnection and reconnection in Ahuja is of an available radio channel not being used for another call.

None of the above disclosures, singly or in combination, show an arrangement in which before establishing a radio channel connection to the cellular network, a caller is notified via the control channel that no radio channels are available and that the caller can go on-hook while waiting for a channel to become available with the assurance that the caller will be called back when a channel is available. The disconnect of the control channel is used instead of a simple (talking channel) disconnect because there was no radio channel (talking) connection established in the first place.

Applicants have substituted independent apparatus claim 31 for claim 11 to be consistent with the subject matter of independent method claim 21. Applicants have worded claim 31 to overcome the Examiner's grounds for rejection of claim 11 under 35 U.S.C. 101.

In summary, Applicants submit that the new claims which are taken directly from the diagram and verbal description should overcome the grounds for the Examiner's rejection under 35 U.S.C. 112, first paragraph; that their amendments of the new version of claim 11 (now claim 31) should overcome the grounds for the rejection under 35 U.S.C. 112 and 101; and that the above arguments should overcome the grounds for the rejection over the cited prior art.

Accordingly, Applicants respectfully request that the Examiner reconsider the grounds for the rejection as they apply to new claims 21-40, allow these claims and pass the application to issue.

If the Examiner feels that a voice or fax communication would help to advance

the prosecution of this application, the Examiner is invited to call or fax Applicants' attorney at 630 469-3575.

Respectfully submitted

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